DETAILED ACTION

1. This action is in response to the amendment filed on 2/17/10.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-5, 8-10, 13-15, 17-20, 24-26, and 35-38 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

5. Claims 1, 15, and 19 as amended require "subjecting the adhesive composition to at least a partial vacuum without substantially heating the adhesive composition". Paragraph 0030 of applicants specification does describe the optional use of heat. However, there is no description of without substantially heating.

6. Claim 38 as amended requires de-bonding by "reintroducing the one or more solvents". Paragraph 0038 of applicants specification does describe de-bonding by using a solvent.

However, there is no description of re-introducing the one or more solvents of the adhesive composition to perform the de-bonding.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-5, 8-10, 13-15, 17-20, 24-26, and 35-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claims 1, 15, and 19 as amended require "subjecting the adhesive composition to at least a partial vacuum without substantially heating the adhesive composition". It is unclear what is meant by "substantially" as the term is not used in applicants specification. Paragraph 0030 of applicants specification does describe "Heat may also be used, such as by warming the adhesive in conjunction with the use of vacuum conditions, provided the adhesive bond between the substrates is not adversely affected by the increased temperature and that adverse thermal distortion problems between the substrate and the adhesive are not thereby encountered.". In view of applicants specification heating that adversely affects the adhesive is considered substantial.

Claim Rejections - 35 USC § 103

10. Claims 1-5, 8-10, 13-15, 17-20, 24-26, and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruiz (U.S. Patent 5,406,694) in view of LeBlanc (U.S. Patent 3,582,516) and Odashima (U.S. Patent 5,183,969).

Ruiz discloses a method of manufacturing a slider for a hard disk drive including providing a ceramic chunk (40 of Figure 6), i.e. a ceramic material, from a wafer and bonding the air bearing side of the chunk to a ceramic manufacturing tool (50 of Figure 6) through a layer of thermoset adhesive placed between and contacting both the chunk and tool (Figure 6 and Column 1, lines 6-8 and Column 5, lines 35-38 and Column 7, lines 38-49). Ruiz does not specifically describe using any particular adhesive. LeBlanc discloses an improved adhesive composition, e.g. a varnish, consisting of adding acetone, i.e. a solvent, to an epoxy novolac resin which adhesive is used in for example inorganic bonding applications as the adhesive has improved properties such as impact and flexural strength when cured/thermoset, easy to prepare, and low in cost (Column 1, lines 60-65 and Column 2, lines 1-26 and Column 9, lines 56-59 and Column 14, lines 52-60 and Claim 9). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the thermoset adhesive in Ruiz the thermoset adhesive composition used for bonding inorganic materials taught by LeBlanc having improved properties such as impact and flexural strength when cured/thermoset, easy to prepare, and low in cost.

Regarding the limitation of "the one or more solvents having a boiling point in the range of about 30 °C to about 70 °C", LeBlanc teaches the solvent consists of acetone which is a solvent having a boiling point in the claimed range.

Regarding the limitation of "substantially removing the one or more solvents from the adhesive composition by subjecting the adhesive composition to at least a partial vacuum without substantially heating the adhesive composition", LeBlanc does not teach any particular sequence for applying and curing the composition. It is well understood in the art of using a thermoset epoxy adhesive composition including an organic solvent to remove the solvent, e.g. by applying a vacuum, prior to curing to form the adhesive into a film having an appropriate thickness as shown by Odashima (Column 5, line 55 to Column 6, line 11). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the method taught by Ruiz as modified by LeBlanc a well known step of removing the solvent prior to cure as shown by Odashima to form the composition into a film having an appropriate thickness. It is noted Odashima does not appear to expressly teach applying any heat during removal of the solvent under vacuum such that the removing is considered by "subjecting the adhesive composition to at least a partial vacuum without substantially heating the adhesive composition". Further, to the extent that Odashima may suggest any temperature is used during removal of the solvent Odashima teaches the temperature does not cure the adhesive which removing then remains considered by "subjecting the adhesive composition to at least a partial vacuum without substantially heating the adhesive composition".

Regarding claim 1, absent any unexpected result it is considered obvious to one of ordinary skill in the art to apply the adhesive in Ruiz as modified to either of the ceramic material or the manufacturing tool followed by contacting the adhesive with the other of the ceramic material or the manufacturing tool as both are obvious methods for achieving the

expected result of disposing the adhesive between the ceramic material and the manufacturing tool.

Regarding claims 2-4, LeBlanc teaches the novolac resin is present in an amount of about 30 wt.% to about 80 wt.% wherein absent an unexpected result it would have been obvious to one of ordinary skill in the art to use as the wt.% novolac resin any of the values within the claimed range.

Regarding claim 5, Ruiz as modified by LeBlanc includes only acetone solvent, i.e. the adhesive composition excludes solvents having boiling points above about 80 °C.

Regarding claims 35 and 36, the Office is unable to test if the adhesive composition taught by LeBlanc results in an increase in yield of about 75% or more over a resist composition that includes a novolac resin and a photosensitizer. However, because the adhesive composition taught by Ruiz as modified by LeBlanc consists of the claimed materials one of ordinary skill in the art would readily expect the adhesive composition taught by Ruiz as modified LeBlanc to necessarily result in the improvement absent a specific showing otherwise.

Regarding claim 36, Ruiz teaches further steps for forming the one or more sliders for use in a hard disk drive including grinding, lapping, etc.

Response to Arguments

11. Applicant's arguments with respect to claims 1-5, 8-10, 13-15, 17-20, 24-26, and 35-38 have been considered but are moot in view of the new ground(s) of rejection.

The new limitations are fully addressed above. As to applicants arguments, it is noted the claims do not require removing the solvent under vacuum without heating, e.g. as argued on page

12, rather the claims require removing the solvents under vacuum without substantially heating wherein what is required by without substantially heating is fully addressed above.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **(571)272-1216**. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John L. Goff/
Primary Examiner, Art Unit 1791